THE NEW BRUNSWICK SHEEP INDUSTRY:

PROSPECTS FOR FURTHER STUDY

BY

SHELLEY GORDON
MARKET DEVELOPMENT BRANCH
N. B. DEPARTMENT OF AGRICULTURE

NOVEMBER 1987

EXECUTIVE SUMMARY

Present conditions in the New Brunswick sheep industry are not conducive to rapid growth. The industry has always been considered a part-time enterprise, a situation that cannot be easily changed. As a result, growth, in terms of satisfying present marketing opportunities, should be sought in those areas where needs coincide with what our present industry can supply. Such marketing opportunities include (1) increasing sales directly to the consumer and through farm markets, (2) replacing shipments into New Brunswick from neighbouring provinces, (3) serving the ethnic markets of Ontario and Quebec and (4) expanding the local retail trade. Demand could easily be increased through promotion but caution not to encourage demand greater than possible supply must be exercised.

HISTORY

The sheep industry in New Brunswick has been constantly deteriorating since 1921, from a provincial breeding flock of 180,000 head to the present day flock of 7,000 head, a 96% decrease (Appendix A). The national flock has also declined by 64%, but did experience periodic segments of growth, the most recent in the early 1980's when the national market was flooded. National sheep flocks, however, have fared much worse than other livestock such as cattle, which has increased 80% in number since 1911 (Appendix B).

The main reason for our reduced flock size lies in the role of sheep on New Brunswick farms, as a subsidiary operation. Each farm unit had its own flock of 30 to 40 ewes for family meat and clothing needs. Specialization became focused on dairy, hog and poultry production. Even today, there is not one full-time sheep operation over 300 head in New Brunswick. As the number of farms in New Brunswick diminished, so proportionately did the provincial flock with a decrease of 30 to 40 head for every farm that ceased operation.

Inconsistent, short supply and related high prices have caused local consumer demand to fall and caused sheep to become viewed somewhat as a specialty product. Lamb has poor representaton at the retail level and has never been accepted by New Brunswick consumers as a routine choice of red meat.

Recent figures show that both provincial sheep inventories and yearly births are down 12% since 1981. The industry has not yet halted its steady decline.

THE NEW BRUNSWICK MARKET PLACE

The present industry in New Brunswick, worth approximately $600,000 is divided into three major areas: co-op shipments to retail outlets, out-of-province shipments and direct sales to consumers.

The New Brunswick Sheep Breeders Feedlot and Marketing Co-op has over 100 members who constitute approximately half of New Brunswick producers and are concentrated in the southern half of the province. It began in 1975 by sending organized shipments of livestock to Toronto and Montreal markets. In 1982, it redefined its focus exclusively to weekly shipments of fresh carcass to local retailers.

To have its livestock slaughter inspected, which is required by New Brunswick retail dealers, the Co-op must ship all New Brunswick livestock to the nearest federally inspected slaughterhouse in Antigonish, Nova Scotia. The carcasses are then shipped back to New Brunswick and distributed to individual retailers. It is a costly but necessary measure which adds $15.00 in transportation cost to each carcass. Producers may sell livestock to the Co-op for a fixed rate and have no further responsibility to slaughter, transport or market the lamb.

Although provincial inventories of sheep are down, industry output has remained relatively constant over the past five years. This stability is not reflected in the area of federally inspected slaughter, which has decreased by 20% since 1981. This 20% appears to have been replaced by interprovincial imports from Nova Scotia.

Because of the Co-op's desire to provide a continuous supply to retailers, it has found it necessary to purchase carcasses from Nova Scotia and Prince Edward Island producers to make up the slack that cannot be satisfied by New Brunswick production. A large portion of these purchases occur in the winter and spring, when N. B. lambs are unavailable. The main reason for the shortage is the fact that many producers sell their lamb during the summer and fall and do not carry them into the winter. Also, northern farmers ship spring lambs to Quebec during the Easter season. As a result, there is less N. B. lamb available to the Co-op from November to June. In 1987, N. S. carcasses amount to 600 head, 20% of total Co-op retail sales to retail (3,000 head).

According to Brian Trenhold, N. B. Agriculture's sheep specialist, the Co-op is handling 90% of the retail <u>fresh</u> lamb market with the remaining 10% supplied by individual producers.

Producers who do not wish to sell through the Co-op may export in individual or organized live shipments to the Toronto and Montreal stockyards and to the slaughter plant in Romouski, Quebec. The largest out-of-province shipments occur in the spring to the ethnic Easter markets of these metropolitan areas and are sent mostly by producers in the northern part of the province. These shipments, however, are down 30% to 1,000 head from 1,400 head in 1981.

The ethnic market appears to be a lucrative one, with indications that demand would not decrease significantly if prices were raised moderately. Inelastic markets, such as these, are ideal for the New Brunswick producer because the market is not price sensitive and it can, therefore, support shipments from other provinces. This market does, however, demand specific varieties of lamb, with each ethnic community requiring a particular age and breed of lamb.

Producers may also sell to local butchers or directly to consumers at the farm gate or at farmers markets. Today, this market accounts for approximately 25% of lambs marketed in New Brunswick, (Appendix D) up from only 11% in 1981. The main reason for this increase is the better return acquired by producers. For every sheep that goes through the Co-op, the producer receives an average $96.00. The Co-op absorbs the slaughter ($8.50), transportation for slaughter ($15.00) and distribution costs ($8.00) involved. At his farm gate, the producer receives $122.00 per head. Transportation costs, distribution costs and middleman margins are eliminated. However, for the higher return, the producer has to take on several additional duties such as slaughter, either done by himself or by a local abbattoir, cutting, wrapping and marketing of the lamb. As the increase in direct sales over the past few years shows, this trade-off is an attractive one for producers (See "Killed and Sold" Appendix B).

In addition to supply through the Co-op and directly from the producer, the New Brunswick market supports a significant amount of imports. Although little livestock has been imported into the province in the past four years, New Brunswick does import a considerable amount of frozen dressed meat from New Zealand and Australia.

A study of national trade figures shows that dressed meat imports constituted almost 55% of national consumption in 1985. This percentage may be overstated as the consumption figure does not include direct to consumer, local barn and butcher sales (Appendix E). Dressed meat imports are down, however, from a high of 80% of consumption in the late 1970's.

These imports reach the consumer through the retail and institutional trade. It appears that as local producton fell, it was replaced by these low-priced frozen imports that are available at any time and in any quantity. Australia has recently introduced to Canada a "chilled" product, which will compete even more closely with the local product.

To summarize New Brunswick's trade situation in 1987, it produced 4,850 head and exported 25% of production. Consumption totalled 417,026 lb.; 62% of this was imported. Most of the imports were in the form of frozen cuts from New Zealand and serviced the institutional and retail trades. Fresh carcass shipments from Nova Scotia and Prince Edward Island (7.5% of consumption) were brought in to serve the retail market, but were only supported by the Co-op when New Brunswick supply was low (Appendix F).

By applying the national per capita consumption to the New Brunswick population, one would expect N. B. consumption to be 1,186,157 lb. Actual consumption is only 35% of this figure or 417,026 lb. This would imply that it is possible for N. B. production to increase by approximately 20,000 head or almost triple to come in line with national consumption.

WOOL

Wool, as a supplementary product of sheep raising, has little effect on sheep industry production but can be looked upon by producers as an added benefit.

Ninety percent (90%) of New Brunswick wool (21,600 lb.) is sold to the Brigg´s and Little Wool Mill in Harvey Station and to Stanfield´s in Truro (9,800 lb.). Approximately 10% (2,400 lb.) is kept for farm use. The balance of Briggs and Little supply is imported tariff free. Although local wool is in raw form as opposed to the processed form of imports, it would appear that any increase in New Brunswick production could be absorbed by Brigg´s and Little. The national wool trade is in a deficit situation with 98% of domestic disappearance coming from imports, which totalled 33 million pounds (16 times Canadian exports). Any increase in New Brunswick production might also be absorbed by the national market.

The national industry has experienced a steady increase in both imports and domestic disappearance. With the recent fashion trend toward natural fibers, wool prices are expected to increase dramatically within the next two years.[1] Surplus holdings of wool in New Zealand and Australia may affect the impact of this boom to a moderate degree.

Despite a decline in national prices, New Brunswick wool prices have remained constant over the past three years at 80 to 85 cents per pound. At a 6.1 pound average clip per head, a producer would receive an average $5.00 per sheep in his breeding flock. This could be raised further to exceed 10% of annual income, if heavyweight lamb were sheared shortly before marketing. Presently, young lambs are not usually sheared. For further economics of wool, please see Appendix H.

The returns from wool, as a support to the sheep industry, appear to be quite promising. Prices are on the rise and there is ample room for growth.

---

[1]Barbara Aarsteinsen, The Globe and Mail, May 25, 1987.

PROFITABILITY

There are many factors to take into account when determining the profitability of sheep production. These include the lambing rate of the flock, disease control, predation, type of feed used, feed prices, meat prices, management practices, the size of the operation and the prevalent marketing system.

At present, the average Provincial lambing rate is only 100% but has the potential to be 150% through three lambings in two years or 200% through double lambing. Presently, however, New Brunswick producers lack the management skills, motivation and capital to increase this rate. It would require housing throughout the winter and much higher supervision and labour. Heating is of little concern as sheep will heat the building themselves if sheared.

Housing would also aid lamb survival. The survival rate for lambs is only 85% of the 100% birth rate, meaning 1,000 yearly deaths. A majority of lamb deaths occur soon after birth but a significant number are due to predators. Deaths due to predation could also be reduced by fencing.

Disease is another factor that lowers profitability. Preventative medicine at marginal costs could cut deaths significantly, thus increasing survival rates and ultimately profitability. Much of the recent research done in this area has dealt with disease in highly controlled systems and cannot easily be applied to small flocks raised under the less controlled systems found in New Brunswick. It would appear that increasing sheep productivity through reducing deaths and increasing births is a very important step in obtaining higher returns.

Since sheep have the ability to feed on practically any type of forage, they are an economical way to produce livestock and have a better conversion comparison under forage or high energy feed than other livestock. They also are helpful to clear scrub land. Forage, however, is only available for part of the year. Sheep must be fed stored feed for the remainder, which may become expensive.

It becomes even more so when the producer undertakes double or year-round lambing and must feed ewes intensively before and after birthing. A key factor in profitability then becomes the price of feed. Figures from two sources indicate that prices had risen between 1982 and 1984 but fell by 8% in 1985 and continue to fall into 1987 (Appendices I and J). Lower feed prices may encourage producers to consider confinement which will allow them double-lambing and protection from the elements and predators.

If feed grain prices were to rise, sheep can be looked upon as an even better alternative to other livestock because of their ability to digest diverse types of forage and crop residues.

Lamb prices have, in the past, been very volitile from week to week and even from day to day. New Brunswick market prices are determined by the Toronto auction prices which are based on the sales of the largest volume of sheep in Canada. As a result of such fluctuations in price, the producer is at risk when sending his livestock to local auctions or out of province because the price may have changed considerably from the day before. This effect may be buffeted somewhat in sales directly to the consumer and to the Co-op. Prices have been on a somewhat steady rise, taking into account seasonality, in recent years due to a reduction in national production. Such trends shed a favourable light on profitability and encourage participation in the industry. Seasonality of price itself is a key determination of profitability depending on when the producer chooses to market his lamb.

A recent study on the seasonality of lamb prices by the Marketing and Economics Branch of Agriculture Canada shows a consistency in seasonal peaks and troughs in the three consecutive five year periods studied (1970 to 1985). These patterns were also found to relate closely and inversely to lamb marketings (Appendix K). If producers were to choose to market lambs when marketings are low and prices are high (April through June), their returns would be considerably higher. To use this production strategy, however, New Brunswick producers would have to change management practices and production schedules considerably.

Present management practices do not aim at high profitability. Due to the fact that it is a subsidiary product for New Brunswick producers, lamb has encouraged little of the effort to increase efficiency, control disease and market effectively that has been accorded to other specialized commodities. Because sheep are a hardy species, surviving cold temperatures with little protection, the producer has been able to allow his herd to practically manage itself until birthing or market time. There is much potential to improve in this area.

Sheep production in New Brunswick has the potential to be profitable. Feed grain prices have dropped and the outlook for meat prices is strong. However, conditions in the province at present can only support sheep production on a part-time basis and for a moderate return. Efforts to improve such factors as lambing rates, disease control, predation, management skills and the marketing system will greatly enhance sheep production.

A general picture of sheep production costs and returns are presented in Appendix K, showing a net contribution of $47.30 per ewe for a 150 ewe flock. This profit is overstated due to the above normal 150% lambing rate and the exclusion of interest, labour and pasture costs. It may be understated depending on what price the producer receives. Price will vary with the weight of the lamb, its degree of finish and the time of year the lamb is sold.

STRENGTHS AND WEAKNESSES

New Brunswick's provincial flock has shrunk dramatically over the past century. With the decline in numbers came the loss of economies of scale, political power, local markets for the product and push to adopt new technology. As the population moved away from small communities to urban centers, the marketing of sheep failed to be organized to effectively reach its relocated market. In 1982, the Co-op initiated sales to urban retailers but, due to the unavailability of local federally inspected slaughter, marketing costs were increased causing returns to farmers to decrease. Also, with the small number of producers in the industry, the small size of flocks and their decentralized location, high and consistent supply is impossible to maintain. It is difficult to create and retain a market with such short and seasonal supply as is seen in New Brunswick, especially with such consistent supplying competitors as Australia and New Zealand..

New Brunswick producers also face the cheapness of imports from New Zealand and Australia and cannot compete on price. Processing costs for sheep are much higher than other livestock as it takes the same length of time to process one sheep as it does to process one hog but returns only 20% of the meat. Also, transportation costs of $15.00 per head are incurred if federal inspection is necessary. There is little chance of obtaining federal inspection in New Brunswick because the volume is too small to support it and because processing costs are so high.

Our natural climate has kept the producers at basically one lambing per year when 95% of lambs are born in the spring, and has prevented him from increasing efficiency in this respect without increased capital and labour investment.

The prevailing attitude toward sheep has presented a constraint in itself. Farmers feel that there is no money in sheep production and that it is, therefore, not worth pursuing.

In spite of the weaknesses present in the industry, there are several characteristics of sheep that have the potential to support growth in the sheep industry.

Sheep have a short breeding cycle and a faster maturation schedule allowing adjustment of flock numbers and breeds to match market opportunities, rapid dissemination of genetic improvement and more than one lambing per year. Sheep livestock produce low fat, medium calorie meat. They have a high feed conversion factor and because of their fast maturation, produce a finished carcass faster than other livestock. They are suitable for any size operation. For sheep, both large, management intensive high protein feed programs and small part-time, forage feed operations yield profitable returns. The low capital requirement and size flexibility allow gradual expansion at minimal risk.

Sheep are well suited for New Brunswick's present part-time operations as well as for beginners and those interested in diversifying their operation. Sheep require minimal labour until harvesting and lambing time when normal vacation periods can be coordinated with the restrictions of regular employment. Production of sheep is not as capital intensive as that of cattle or hogs. Sheep can easily withstand Canadian winters and use land reverting to scrub.

There are a considerable number of key factors in favour of expansion of the New Brunswick sheep industry. In order for these strengths to be capitalized on, the persistent fundamental weaknesses presented earlier must first be overcome.

CONCLUSION

There are many areas in which further study can be done. The most viable, of course, will be those in keeping with the present market constraints. The natural climate best supports spring lambing; the small size of the market will best support, for now, part-time operations using available rough forage; there is no local federally inspected slaughter plant, lending to exports or direct-to-consumer sales; the present supply is small and inconsistent, lending to a market that is seasonal or periodic and a promotional strategy that employs constraint to overextending demand and finally, costs of production are generally high causing high priced markets to be most viable.

The segment that best suits the present industry is the local market: farmers markets and direct-to-consumer sales.

This segment has more than doubled as a percentage of the market since 1981 and promises room for additional growth. The reasons for this are its suitability to the industry, including heavy fall demand which supports the natural spring lambing, small local markets established by one-to-one contact which can only be achieved with part-time, individually-run operations, and no housing or federal inspection of slaughter is required, which reduces the producer's cost of production. Lambing in the spring and feeding through the summer allows savings on feed and the use of any rough forage that the producer may consider unproductive for anything else. This market provides a relatively higher return to producers and has the potential to form repurchase links with the customer.

One of the major factors that must be considered before entering this segment is the large portion of income received in the fall and the subsequent need to distribute these funds over the year period. The increased time involved to slaughter and wrap on the premises must be considered as well as the time to develop and maintain consumer ties to sell the lamb. Once these ties have been made, however, the producer may have a guaranteed customer year after year at a very attractive return.

The Co-op offers producers a fair price for livestock. For those producers who have extra production and those who can acquire a return from the price offered, the Co-op presents a practically guaranteed avenue of sale with no extra duties beyond the delivery of livestock. It is willing and eager to take any increased New Brunswick production over Nova Scotia livestock.

Another attractive segment for New Brunswick sheep producers is live shipments to Ontario and Quebec. These markets offer premium prices for young lambs with demand highest at Easter. These lambs could be approximately three months old and could be born from December to late January, depending where Easter falls. This segment also does not require inspected slaughter.

Indications are that New Brunswick shipments to this market could be doubled immediately with no large effect on other meat consumption. Each ethnic group of the large metropolitan areas of both provinces has its own

preference concerning size and type of lamb. For example, people of Greek and Italian origin prefer a young lamb of 35 to 50 lb. liveweight. Demand is heaviest at Easter but also calls first for lamb over other meat at festivities. Many European families eat lamb regularly, a taste inherited from the homeland. As these groups are quite particular about their lamb, they are willing to pay attractive prices for it, at sometimes twice the regular price. This market appears to mesh well with the New Brunswick producer because high processing and transportation costs may be covered by high prices offered, New Brunswick flocks are small and can easily be converted to new varieties to satisfy specific demands, the northern part of the Province has no linguistic barriers with Quebec, and this market does not require federally inspected slaughter. This market is of particular interest to northern producers who are as close to it as they are to the nearest co-op outlet in Woodstock. Producers in southern New Brunswick may not realize a profitable return for such shipments because their transportation costs will be higher. This market also introduces an element of risk in organizing a shipment, sending it and finding a buyer for it.

New Brunswick did ship 15% (1,000 head) of its net output to these provinces. Quebec is aiming at self-sufficiency but did accept livestock from Ontario and New Brunswick in 1985. Ontario imported 20% of its in-province recorded marketings from the United States and 7% from other provinces. National figures indicate that Ontario is importing consistently from the United States without exporting. From these figures, one can see that there is potential to replace United States and other provincial shipments into Ontario and Quebec. Prices are most attractive at Toronto stockyards at an average 10% higher than at Montreal, netting a 6.4% higher price after the extra transportation costs are considered.

However, to serve this market, the producer must consider adjusting his flock to the varieties desired by the market and arrange for winter birthings either investing in housing or accepting high losses at birth.

New Brunswick cannot compete directly with New Zealand imports because they are considerably cheaper and readily available. It can, however, offer a fresh product, which is preferred over the frozen imports. These imports are purchased by the institutional trade as well as the retail trade. In the 1970's, hotel and institutional buyers indicated preference for New Zealand over New Brunswick product because of lack of supply of the New Brunswick product, it was unavailable in portion cuts, it was too fatty and its price -as not competitive with New Zealand. In supplying the market, New Brunswick producers may face cutting, wrapping and storage provisions, increased costs of production and a lower return.

This market, as well as the retail market, could be expanded through promotion as there appears to be a lack of awareness of the product by both retailer and consumer. Price, as a given, will be high because of high costs of production. Supply is short at present. Demand is inelastic so an increase or decrease in price will not change quantity demanded by much.

Promotion must, therefore, support these variables with a high quality "specialty" image. Feature specials may be used to introduce the product, increase exposure and elicit trial. As many as 50% of Canadians have never tasted sheep/lamb. As price is later increased, it will not be rejected by consumers because of the established high quality image. A study done by D. Grondin, Home Economics Branch, N. B. Department of Agriculture, found that liking of lamb increased with the age, education and income of the New Brunswicker. Further study could be done to define a distinct target market and relevant promotional objectives. The same study found that consumers feel they are willing to pay 75% of the price of beef for lamb, and that 58% of those who had purchased lamb, liked it moderately to very much.

Caution must be exercised with respect to promotion in New Brunswick. Too much could create demand that could not be satisfied by the present supply. It should coincide with the growth of production to be effective, otherwise consumers will be turned away from the product or begin supporting imports.

The New Brunswick sheep industry can also support expansion by improving the consistency of supply. Present trade occurs in the spring with newly born lambs and in the fall, after lambs have been fattened from summer grazing. Producers are unlikely to sell sheep that they have fed all winter until the lamb crop is sold. This is a result of a small January lambing and a large late spring lambing. If year round lambings could be arranged with marketings three to four months after birth, consistent supply of fresh lamb to the local market would result. This would involve, however, winter heated housing and higher feed costs but reduce predator deaths. Of the 95% of lambs born before July, 15% are exported in the spring, 40% are sold in-province before July and only 35% are sold in the second half of the year. Producers could also freeze lamb in carcass form or in cuts to supply the product year round with only one yearly lambing.

The producer's management practices must match whichever market he wishes to service. The ethnic market requires fresh product year round with high demand in the spring; housing would best suit this market. Retail also would prefer fresh product as it can purchase frozen cuts from New Zealand for much less; housing would best suit the province's retail market. The majority of direct-to-consumer sales are in the fall for the home freezer; normal lambing in late spring would suit this market. The institutional trade prefers cheaper frozen cuts; any excess production could be frozen in cuts to service this market whenever demand is realized.

Confinement of sheep in housing arrangements is believed to have little applicability to New Brunswick production because of high labour, building, machinery, fuel and high energy feed costs and the lack of a strong market to support these costs. It will be, however, a consideration if the market were to expand.

At present, the spring birthing supports sales at Easter and in the fall with fattened lambs. New Brunswick should begin its growth with markets that coincide with its service capabilities. It may seem like a production orientation but present conditions are given and any expansion that will be achieved will be done by determining consumer needs and determining better ways to satisfy them.

One way this could be done is through packaging by supplying fresh and frozen carcasses as well as frozen, wrapped cuts, boneless cuts, ready-to-eat portions, consumer information on the packages concerning the low fat/moderate calorie meat and new methods of preparation.

Any changes that are made to production are going to involve more capital investment and more labour time. Government assistance would be beneficial in several areas including housing for year round birthing, medical research to improve medication for forage feed conditions, fences to protect from predation, a slaughter facility to cut production and transportation costs greatly and management seminars or reports to increase productivity.

The key for growth in the New Brunswick sheep market is encouragement of gradual expansion to reverse the downward spiral of the industry, beginning with improving production efficiency and developing attractive markets. Pushing producers into an unattractive market through subsidies or direct financial aid will be wasted. Producers must be encouraged by a visible return before they will apply their effort. A significant return should be made visible to them in the three market segments presented above.

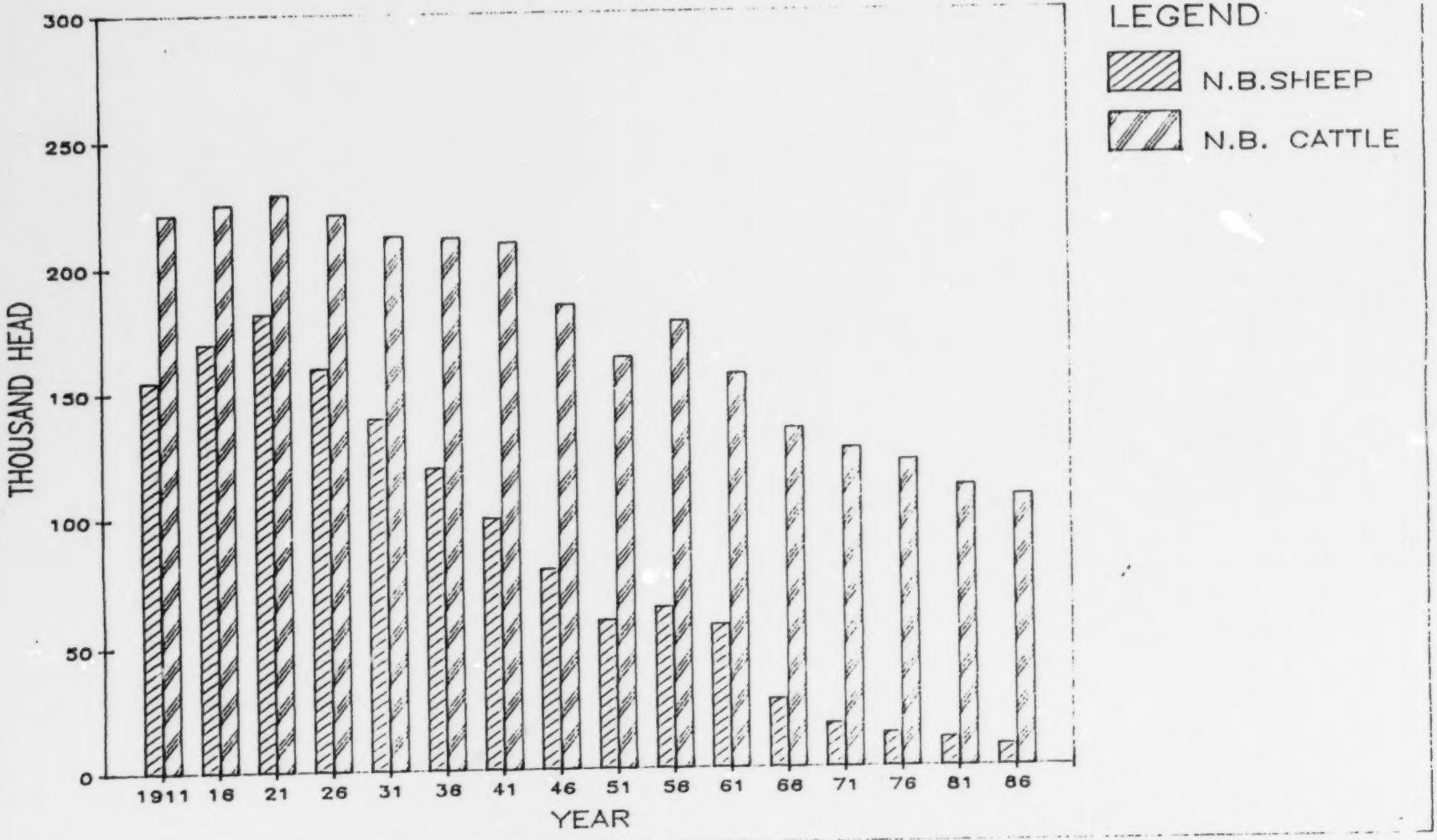
As they begin to see the feasibility of sheep as a production possibility, they may take the initiative and accept government attempts to introduce improvement to management practices, technology and supply and quality control.

If attempts are made to revitalize the industry in a day, it will backfire because the technology, supply and capital to support a larger industry will not be present immediately. It must be a gradual process, but it must start soon.

APPENDICES

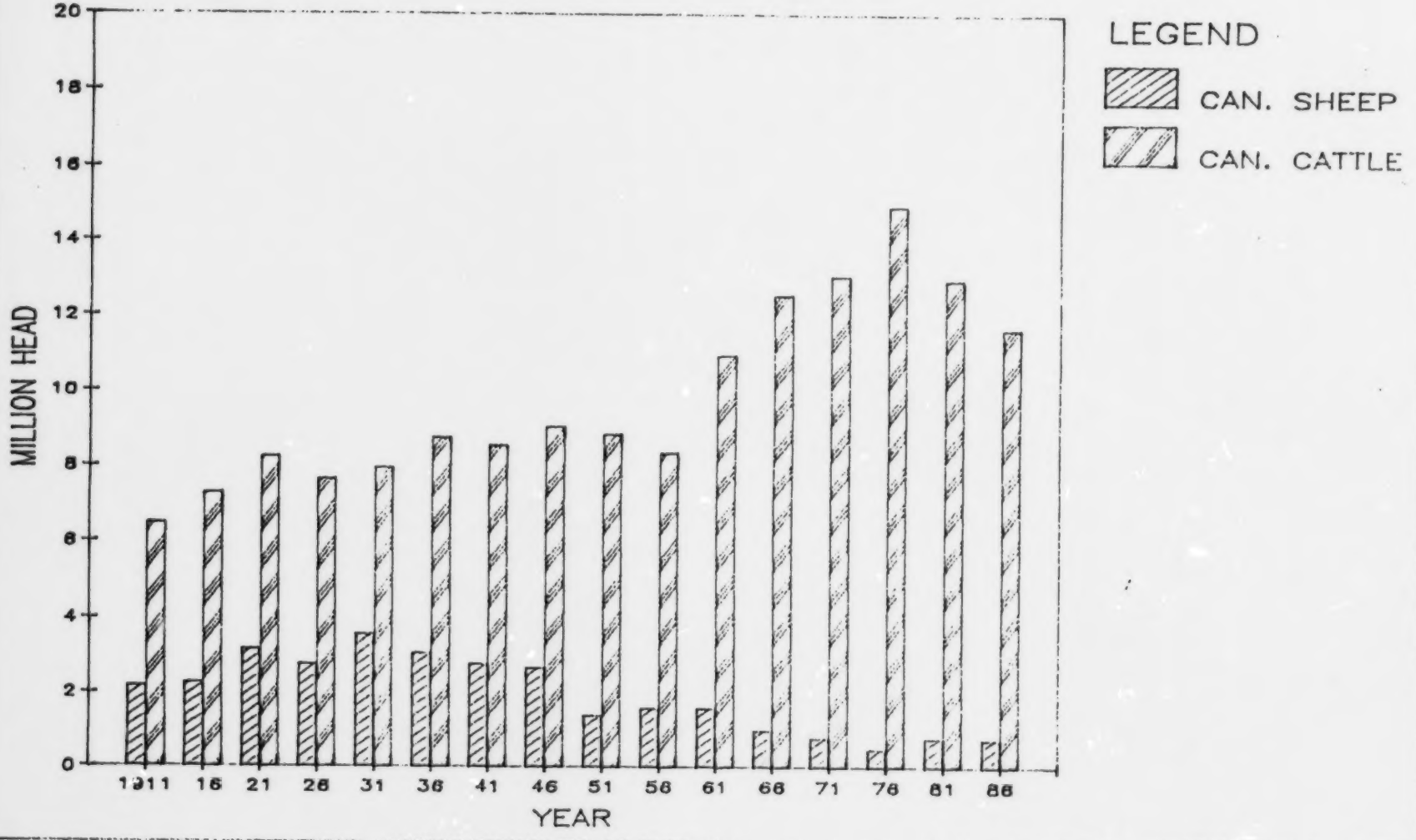
APPENDIX A

SHEEP AND CATTLE HEAD ON NEW BRUNSWICK FARMS (1911-1986)



APPENDIX B

SHEEP AND CATTLE HEAD ON CANADIAN FARMS (1911-1986)



BALANCE SHEET, SHEEP AND LAMB

CENSUS YEARS 1981 AND 1986

NEW BRUNSWICK

(head)	1980-81			1986-87		
	Fall July'80 to Dec'81	Spring Jan-June'81	Year	Fall July'86 to Dec'86	Spring Jan-June'87	Year
Beg. Inventory	12,800	8,000	12,800	9,300	7,000	9,300
Births		7,800	7,800	300	6,600	6,900
Interp. Imports				600		600
Intern. Imports				100		100
Total Supply	12,800	15,800	20,600	10,300	13,600	16,900
Ending Inventory	8,000	13,300	13,300	7,000	9,300	9,300
Deaths	200	800	1,000	400	600	1,000
Input	4,600	1,700	6,300	2,900	3,700	6,600
Interp. Exports	1,400		1,400		1,000	1,000
Intern. Exports						
Killed & Eaten	200		200	200	100	300
Killed & Sold	400	100	500	800	200	1,000
F.P.I.S.	2,100	1,500	3,700	1,200	1,800	3,000
O.C.S.	500	100	600	700	600	1,300

For example: To determine all sheep slaughtered of New Brunswick origin in the year 1986-87:

- Government inspected slaughter	July-Dec'86	1,200	
	Jan-June'87	1,800	
- Other commercial slaughter (O.C.S.)	July-Dec'86	700	
	Jan-June'87	600	
		4,300	head

APPENDIX D

LAMB STATISTICS
1987

	1981	1987
New Brunswick Flock Size	8,000	7,000
100% Lambing Rate	7,800	6,900
Mortality Rate 13-15% (includes immediate deaths and predator deaths)	1,000	1,000
Survival Rate of approximately 85%	6,800	5,900
Replacement (15% from ewe flock)	1,520	1,050*
Lambs to Market	5,280	4,230

* In 1981, 500 was added to the flock, see Appendix C.

BREAKDOWN OF LAMBS TO MARKET
N. B. ORIGIN

	1981	1981 Number	1987	1987 Number
Co-op	59%	3,115	45%	2,100
Home Freezer, Direct to Consumer and Local Butchers	7%	380	13%	650
Farmers Markets	4%	210	10%	500
Live Organized Shipments	20%	1,050	15%	750
Local Sale Barns	6%	315	7%	350
Drovers (Leaving Province)	4%	210	10%	500
TOTAL	100%	5,280	100%	4,850

These figures do not coincide with the balance sheet figures of Appendix C because they deal only with lamb marketings (sheep marketings, (1,050 head, 1987, not included) and because they do not include imports as the "output" in Appendix C does (700 head, 1987).

APPENDIX E

WORKSHEET

CANADIAN SHEEP MARKETINGS
1985

IMPORTS	EXPORTS
23,100,000 lb. dressed meat	257,000 lb. dressed meat (U.S.)
U.S. 1,627,000 lb.	
Aust. & N.Z. 21,472,000 lb.	
38,413 head livestock @ 80 lb.	19,154 head livestock @ 80 lb.
U.S. 3,073,040 lb.	U.S. 1,532,320 lb.
26,173,040 lb.	1,789,320 lb.

RECORDED MARKETINGS IN CANADA
(Receipts in Public Stockyards)

Domestic Production	18,518,800 lb.	
Less Exports	1,789,320 lb.	
Consumption (Domestic Origin)	16,729,480 lb.	(39%)
Add Imports	26,173,040 lb.	(61%)
Canadian Sheep Consumption*	42,902,520 lb.	

* Does not include sales to local butchers or directly to consumers.
* Calculated using an 80 lb. average live weight per lamb.

DRESSED MEAT IMPORTS

DRESSED MEAT

U.S. Imports	1,627,000 lb.
Aust. & N.Z. Imports	21,472,000 lb.
Dressed Meat Imports	23,099,000 lb.
Total Canadian Consumption	42,902,520 lb.

Dressed meat imports constitute almost 53.84% of total Canadian supply, with the majority of these coming from Australia and New Zealand.

APPENDIX F

SUMMARY OF LAMB MARKETINGS IN NEW BRUNSWICK
1986

	HEAD		LBS.
New Brunswick Output (App. C)	4,850		218,250
Less Exports	1,250		56,250
Consumption (Local Production)	3,600	(44%)	162,000
Imports:			
Livestock (Interprovincial)	700	(8.6%)	31,500
Dressed Meat (International)*	4,967	(53.6%)*	223,526
Total Imports	5,667		255,026
Net New Brunswick Consumption	9,267	(100%)	417,026

All percentages are expressed as a portion of net New Brunswick consumption.

Conversions to and from pounds were made using a 45 lb. dressed weight per lamb factor.

---

* Assuming national dressed meat import percentages (53.6% of consumption were dressed meat imports) can be applied to the New Brunswick market, 193,500 pounds [consumption (local) and interprovincial livestock imports] would constitute 46.4% of consumption. Total consumption would be 417,026 pounds.

APPENDIX G

Per Capita Consumption:

Canadian Consumption (Ap.E) 1985			42,902,520 lb.
(understated as these are only recorded figures)			
Canadian Population	1986		25,641,840
Per Capita			1.673 lb./person
New Brunswick Census	1986		709,000
Therefore, N. B. Consumption			1,186,157 lb.
(understated)		or	26,360 Head

N. B. supply (Appendix F) is only 35% of what national figures indicate consumption should be.

APPENDIX H

ECONOMICS OF WOOL
1986

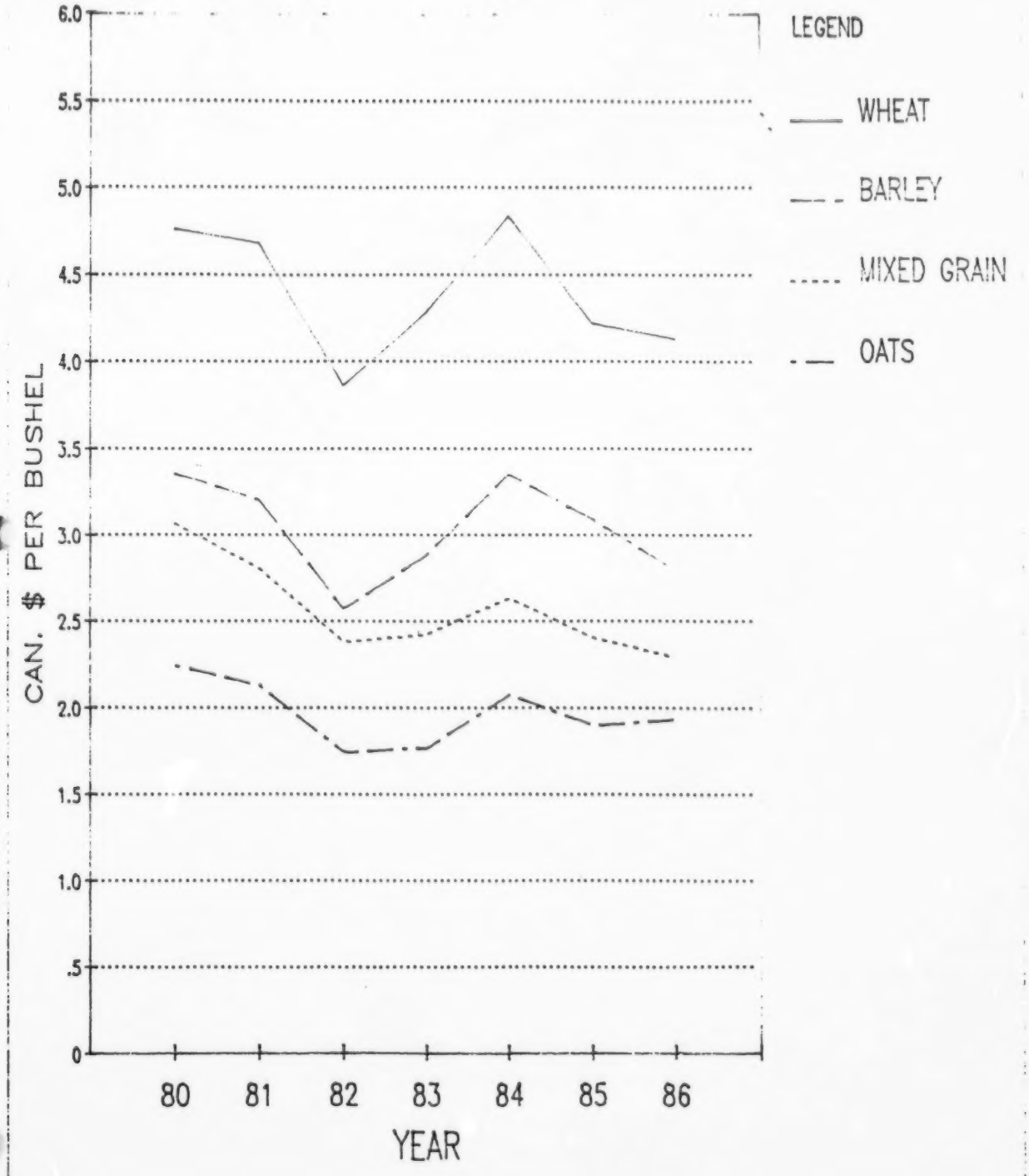
N. B. Produced	24,400 lb.	
Head Clipped	4,000	
Clipper Head	6.1 lb./head	
90% Local Processors (Brigg's & Little and Stanfield's)	21,600 lb.	
10% Farm Use	2,400 lb.	

Provincial Cash Receipts:

7,000 ewes x 6.1 lb./ewe @ 85 cents	$36,295
Transportation Cost @ 7.5 cents/ lb.	3,203
Net Cash Receipts	$33,092
Actual Return (farmer does his own shearing)	77.5 cents/lb.
If custom shearing is done @ $2.00/head, then actual return is ($2.00 ÷ 6.1 lb./sheep = 32.8 cents; 77-32.8 = 44.7)	44.7 cents/lb.
Shearing Costs	$13,005
Net Cash Receipts (Custom Shearing)	$20,087

APPENDIX I

FEED PRICES IN P.E.I.



APPENDIX J

FEED PRICES IN CANADA

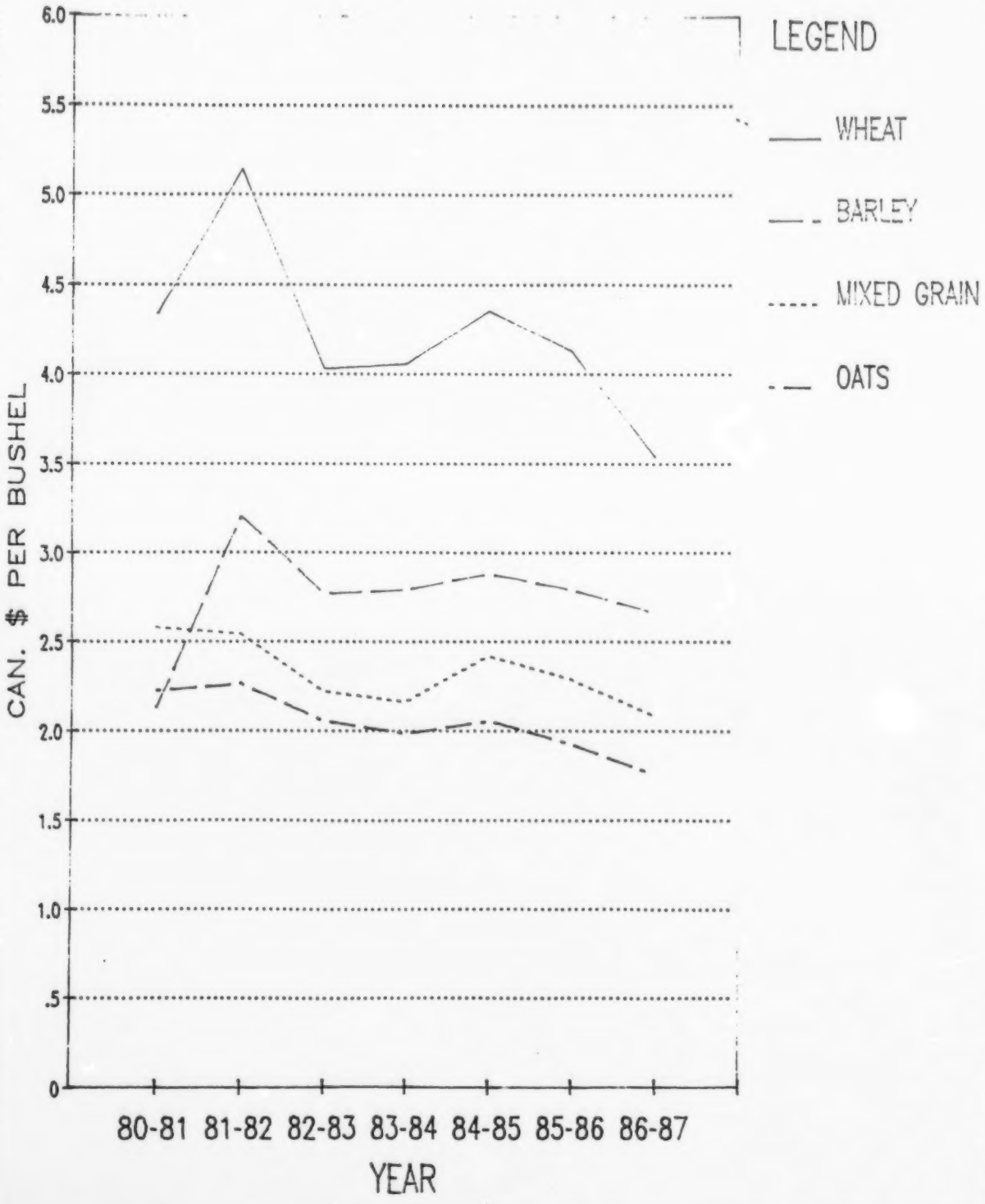
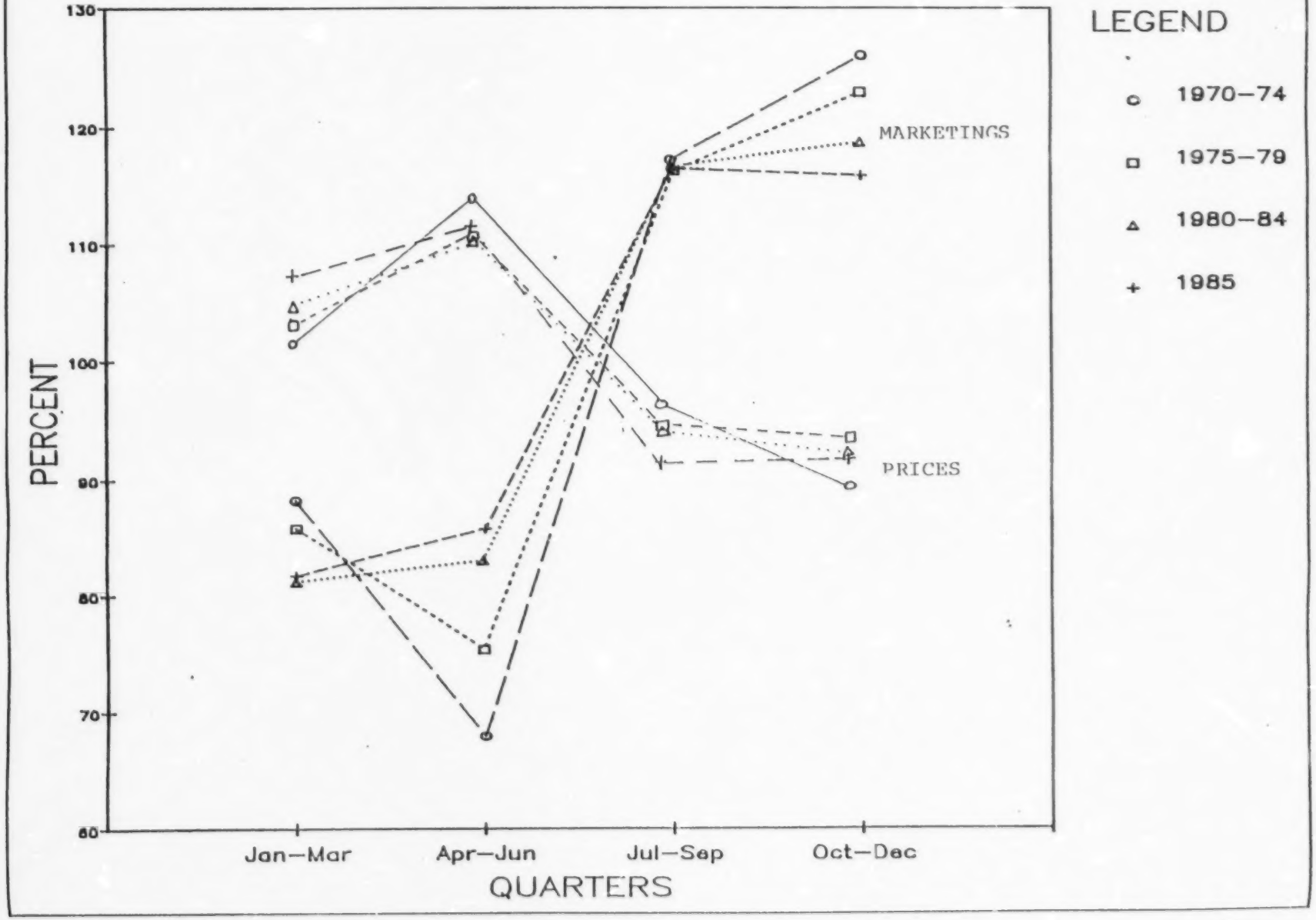


FIGURE 16. SEASONALITY IN CANADIAN LAMB MARKETINGS



APPENDIX L

SHEEP PRODUCTION COSTS AND RETURNS IN NEW BRUNSWICK
FLOCK SIZE 150 EWES

The following provides a picture of the costs and returns from a sheep operation with a flock size of 150 ewes in New Brunswick.

The operating costs do not include: interest costs, labour costs, machinery or pasture costs since this will tend to vary considerably from operation to operation.

The costs and returns are based on an operation with good management producing a lamb crop of 150% and marketing lambs at optimum weights.

As lamb crops go above or below 150%, the profit will go up or down.

OPERATING COSTS
MAY LAMBING - COST/EWE

VARIABLE COSTS:		
Feed		
Hay	- 1,000 lb. @ $.03	$30.00
Grain	- 20 lb. pre-breeding @ $.12	2.40
	- 20 lb. post-breeding @ $.12	2.40
	- 20 lb. last 4-6 weeks gestation @ $.12	2.40
	- 25 lb. lamb finishing x 1.5 @ $.12	4.50
Veterinary		1.50
Medicine		
Antibiotics		.25
Vaccination	- Ewe Booster	.20
	- Lamb Primary $.70 x 1.5	1.05
	- Lamb Booster $.20 x 1.5	.30
Internal Parasite	- Ewe 4 x $.90	3.60
	- Lamb 5 x $.40	2.00
External Parasite		.25
Flock Expenses		
Breeding Costs	- $300 purchase over 3 yr. for 40 ewes	2.50
Ram Maintenance	- Cost $60.00/year	1.50
Replacement Costs	- 20% of flock x $100/replacement	20.00
Other Expenses		
Repair and Maintenance on Facilities		4.00
Telephone		1.50
Electricity		4.00
Insurance		4.00
Shearing (if custom done)		2.00
Marketing		1.00
Miscellaneous		2.00
TOTAL		$93.35

APPENDIX L (CON'T)

FIXED COSTS:
Not Included
Interest Costs
Labour
Pasture Costs

RETURNS
MAY LAMBING - $/EWE

1.5 Lambs/Ewe @ $85.00		$127.50
Culls - 18% x $40.00		7.20
Wool - 7 lb. @ $.85		5.95
TOTAL		$140.65
TOTAL RETURNS	$140.65	
OPERATING COSTS	93.35	
NET CONTRIBUTION	$ 47.30/EWE	

SOURCES

1. Canada's Agricultural Systems, Department of Agricultural Economics, McGill University (M. D. Branch).

2. Commodity Analysis Profile on Sheep, December, 1982 (M. D. Branch).

3. The Sheep Industry in New Brunswick: Problems and Prospects, A study prepared for the Agricultural Resources Study Group by Gerry Ryle, November 1976 (H. I. Library).

4. Attitudes of N. B. Consumers to Lamb, Deirdre Grondin, Home Economics Branch, Dept. of Agriculture and Rural Development, 1974 (H. I. Library).

5. Canada Livestock and Meat Trade Report, Volume 68, No. 1-13, Agriculture Canada, Market Information Service (M. D. Branch).

6. Report on Sheep Industry for N. B. Agriculture by Spacial Planning (H. I. Library).

7. Seasonal Price and Marketing Variations in the Livestock Industry, Yap M. Tan, Marketing and Economics Branch, Agriculture Canada, Working Paper #17, 1986.

8. The Report of the Ontario Sheep Commission on The Establishment and Operation of an Ontario Sheep Marketing Agency, Chairman: Jack James, Ontario Sheep Marketing Agency Commission, September, 1984.

9. Sheep Study 1987-88, Sheep Specialist Brian Trenholm, New Brunswick Department of Agriculture, July, 1987.

10. Grain Facts, Livestock Feed Board of Canada, Vol. XVIII, No. 20, May 18, 1987 (M. D. Branch).

11. Livestock and Animal Products Statistics, (M. D. Branch).

12. 1986-87 Maritime Agricultural Directory, Diversified Guides, 1987 (M. D. Branch).

13. Statistics:

    Brian Trenholm
    Sheep Specialist and Fur Fieldman
    Animal Industry Branch
    New Brunswick Agriculture, P. O. Box 6000
    Fredericton, N. B. E3B 5H1
    (506) 453-2457

    Miss Barb McLaughlin
    Agricultural Statistician, Statistics Canada
    P. O. Box 637, Truro, N. S. B2N 5E5
    (902) 893-7251

Mr. Allison Ramsay
Dept. of Agriculture in Charlottetown, P.E.I.
(902) 892-4104
Referred by:
Marketing Branch, P.E.I. Dept. of Agriculture, Kingsington, P.E.I.
(902) 836-3605
Referred by:
Agricultural Market Report
P.E.I. Dept. of Agriculture

Ms. Marie Antle
Statistics Canada
1256 Barrington Street, Halifax, N. S. B3J 1Y8
(902) 426-5331

Mr. Harold C. Schneider
Market Information Officer
Agricultural Inspection Directorate
Food Production and Inspection Branch
P. O. Box 6088, Moncton, N. B. E1C 8R2
(506) 857-7400
Referred by:
Agriculture Canada, Atlantic Provinces
P. O. Building, 4th Floor, 30 Highfield Street
Moncton, N. B. E1C 8R2

N. B. Agricultural Statistics, 1985 Edition
Statistics Canada, Maritime Office
Planning and Development Branch
N. B. Dept. of Agriculture

Statistics Canada, Ottawa
- Census Figures, Rick Bouroughs (613) 990-8711
- Farm Cash Receipts, Lambert Gauthier (613) 991-2439
  Jackie Lablanc-Cooke (613)990-8707
- Crops, Marc Elward (613) 991-3864
- Livestock, Bernard Rosien (613) 991-2509